

PATENT

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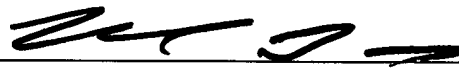
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Date: 6-20-05

  
Himanshu S. Amin

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re patent application of:

Applicant(s): Anwar Chitayat, *et al.*

Examiner: Burton S. Mullins

Serial No: 09/817,622

Art Unit: 2834

Filing Date: March 26, 2001

Title: SYSTEM AND METHOD TO CONTROL A ROTARY-LINEAR  
ACTUATOR

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**SUPPLEMENTAL REPLY BRIEF**

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Dear Sir:

Applicants' representative submits this Supplemental Reply Brief in response to the Examiner's Supplemental Answer mailed May 12, 2005.

**A. Rejection of Claims 1-4, 6-10 and 17-21 Under 35 U.S.C. §103(a)**

Claims 1-4, 6-10 and 17-21 stood rejected under 35 U.S.C. §103(a) as being unpatentable over Kemmer *et al.* (US 4,232,831) in view of Spinner *et al.* (US 5,771,174) and Mizutani (US 5,532,533). Applicants' representative notes the concession by the Examiner that Kemmer *et al.* fails to teach or suggest ***an amplifier*** as recited in independent claims 1 and 17, and that the rejection of claims 1-4, 6-10 and 17-21 under this heading have been withdrawn.

**B. Rejection of Claims 11-15 Under 35 U.S.C. §103(a)**

Claims 11-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (US 4,644,205) in view of Spinner *et al.* (US 5,771,174) and Mizutani (US 5,532,533). This rejection should be withdrawn for at least the following reasons. Sudo *et al.*, Spinner *et al.* and Mizutani, either alone or in combination, fail to teach or suggest each and every limitation recited in the subject claims.

The Examiner, while conceding that Sudo *et al.* fails to disclose an *integrated control system and an associated rotary-linear motor ... integrated into a single module*, nevertheless maintains that the cited document provides a control system that "is 'integrated' in the sense that it comprises a unit that is electrically connected to and controls the coils." See Supplemental Examiner's Answer, page 4. Applicants' representative disagrees and asserts that the control system disclosed by the cited document is not integrated to the magnetic suspension-positioning device disclosed therein. As was stated in the Reply Brief, Sudo *et al.* provides a control system that selectively energizes first and second coils of a magnetic suspension-positioning device, wherein the control system and the first and second electrical coils are connected with one another through the use of an electrical cord. Further, a reading of col. 4, lines 34-36 and inspection of Figures 2 and 10 reveal two distinct and separate components, a magnetic suspension-positioning component and a control system, wherein the control system is attached to the magnetic suspension-positioning device through an electrical cord. The Examiner's contention that by merely attaching two distinguishable components through utilization of an electrical cord connotes the integration of the two components is clearly

fallacious, and is akin, for example, to suggesting that a computer and a monitor are integrated with one another simply because they are coupled through an electrical cord, or, as a further example, stating that a computer is integrated into a wall merely because the computer is electrically powered through a power cord connected to a wall mounted power outlet.

Moreover, the Examiner in the addendum to the Examiner's Supplemental Answer provides a dictionary definition for "integrate" which states in part that integrate denotes "to unite (parts or elements), so as to form a whole; also, to unite (a part or element) with something else, esp. something more inclusive." If *arguendo*, this interpretation were applied to the subject claim language, and if the claims were so limited, the claim language: "***the integrated control system and an associated rotary-linear motor are integrated***", would be understood by one of ordinary skill in the art, without more, to impute that the integrated control system and associated rotary-linear motor are united so as to form a whole, *i.e.*, a single unit. It is thus applicants' representative's contention that: "***into a single module***", which the Examiner acknowledges is neither taught nor suggested by Sudo *et al.*, is reiterative of, and merely reinforces, the fact that the invention as claimed is an indivisible whole.

Nevertheless, the Examiner provides Mizutani to cure the deficiency rendered by Sudo *et al.*, stating that Mizutani discloses: "a motor and a printed circuit board 58 integrated into a single unit since the circuit board is fitted to a portion extending in the radial direction of bearing 5 from the housing 51b and is loaded with power circuit 31 and signal processing circuit 24." See Supplemental Examiner's Answer, page 4. While applicants' representative does not, for the most part, disagree with the Examiner's enumeration of the constituent components disclosed in the cited document, it is noted however, that Mizutani relates to a servomotor rather than a rotary-linear motor as recited in the subject claims. A servomotor as would be commonly understood by one skilled in the art relates to a device utilized to provide mechanical or positional control at a distance. A rotary-linear motor in contrast would be recognized as a device that produces both rotational and linear movement. Thus, it is submitted that Mizutani and applicants' claimed invention do not pertain to the same field of endeavor, and similarly, that

Mizutani and Sudo *et al.* do not pertain to the same field of endeavor. Consequently, it is believed that Sudo *et al.* and Mizutani are not combinable with one another despite the alleged advantages that the Examiner puts forward for the purported combination.

In view of at least the foregoing, reversal of the rejection of claims 11-15 is respectfully requested.

**C. Rejection of Claims 1-4, 6-10 and 16-21 Under 35 U.S.C. §103(a)**

Claims 1-4, 6-10 and 16-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (US 4,644,205) in view of Spinner *et al.* (US 5,771,174), Gerard (US 4,751,437) and Mizutani (US 5,532,533). Reversal of this rejection is respectfully requested for at least the following reasons. Sudo *et al.*, Spinner *et al.* Gerard and Mizutani, either individually and/or in combination, do not teach or suggest ***each and every limitation*** recited in the subject claims.

The Examiner asserts that the claim language *wherein the plunger is supported against a motor support via bearings*, as recited in independent claims 1, 16 and 17, should be “read as meaning simply that the bearings support the plunger relative to the motor support.” See Supplemental Examiner’s Reply, page 5. Applicants’ representative contends that this interpretation is inconsistent with the Examiner’s burden under 35 U.S.C. §103. In order to establish *prima facie* obviousness under 35 U.S.C. §103, the Examiner must demonstrate that each and every limitation set forth in the subject claims is taught or suggested by the purported references. See MPEP §706.02(j). Moreover, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the applicant’s disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Since, the document upon which the Examiner relies to teach the claim language at issue and to substantiate this rejection fails to utilize bearings of any type, the only plausible conclusion that applicants’ representative can draw from this omission is that the Examiner is utilizing applicants’ specification as a 20/20 hindsight based roadmap to achieve the purported invention; a practice that has been vigorously condemned by the CAFC. See *e.g.*, *Panduit Corp. v. Dennison Manufacturing Co.*, 1 USPQ2d 1593 (Fed Cir. 1987). Accordingly,

withdrawal of this rejection with respect to independent claims 1, 16 and 17, and associated dependent claims is requested.

**D. Rejection of Claims 22-27 Under 35 U.S.C. §103(a)**

Claims 22-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (US 4,644,205) in view of Horikoshi *et al.* (US 5,142,172), Gerard (US 4,751,437) and Spinner *et al.* (US 5,771,174). This rejection should be withdrawn for at least the following reasons. Sudo *et al.*, Horikoshi *et al.*, Gerard and Spinner *et al.*, either alone or in combination, do not teach or suggest all the limitations set forth in the subject claims.

Independent claim 22 recites: ***a control system and a network interface integrated into a single module, the control system integrated with a rotary-linear actuator.*** The Examiner maintains that Spinner *et al.* provides the substance of the recited limitations at col. 3, lines 58-60. Col. 3, lines 58-60 stipulate that “Each actuator motor 26 has an associated actuator controller 30 preferably mounted on the body of the actuator.” It appears to applicants’ representative therefore that the germane distinction between the cited art and the invention as claimed lies with the distinction between “integrated” and “mounted on the body”.

The Examiner’s contention lies with the fact that Spinner *et al.* mounts and secures parts together. While applicants’ representative does not deprecate the fact that the cited document does mount and secure disparate parts together, it is nevertheless applicants’ representative’s stance that mounting and integrating connote a subtle difference. For example, a work of art can be mounted on the surface of a wall; however the act of mounting the work of art on the wall does not imply that the wall and the work of art have become integrated with one another. To the contrary, it is generally recognized that the wall and the work of art remain two distinct entities separate and apart – the wall and the work of art. As a further example, pistons in an automotive engine, albeit separate and individuate parts of a disassembled engine, are nevertheless considered integrated into the engine once the engine has been assembled, such that one of ordinary skill in the art would consider the automotive engine to be a single entity –

one continuous whole – even though he or she would be cognizant that the automotive engine itself comprises a multitude of component parts each with a different name. Applying these examples to the respective teachings of Spinner *et al.* and applicants' claimed invention, one of ordinary skill in the art would be under the inexorable impression that Spinner *et al.*'s mounting of the actuator controller onto the body of the actuator motor merely signifies that the actuator controller is mounted onto the surface of the actuator motor, and that no integration of the two has taken place as there remains, after securing the two together, a distinct actuator controller body and a separate actuator motor body. In contrast, one of ordinary skill in the art, on reading the subject claim language would deduce that applicants' claimed invention expresses the intent that the control system and the rotary-linear actuator are integrated with one another in such a manner as to provide one indistinguishable entity – an integrated rotary-linear actuator system, *i.e.*, there is no discontinuity between the control system and the rotary-linear actuator into which the controller is integrated to form the integrated rotary-linear actuator system. Moreover, this lack of discontinuity in the claimed invention is illustrated in Figure 10 which shows that the control system and the rotary-linear actuator form an undivided whole.

In view of at least the foregoing, it is respectfully requested that the rejection of independent claim 22, together with claims that depend there from, should be withdrawn.

CONCLUSION

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited references. Accordingly, it is respectfully requested that the rejections of claims 1-4 and 6-27 be reversed.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Respectfully submitted,  
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